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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/628,929	07/28/2000	Joe Cargnelli	9351-21/HSF	3626
1059	7590	04/20/2004	EXAMINER	
BERESKIN AND PARR SCOTIA PLAZA 40 KING STREET WEST-SUITE 4000 BOX 401 TORONTO, ON M5H 3Y2 CANADA			FORD, JOHN K	
			ART UNIT	PAPER NUMBER
			3753	

DATE MAILED: 04/20/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/628,929

Applicant(s)

Cargnelli et al.

Examiner

FORD

Art Unit

3753

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 8-11-03
- 2a) ☒ This action is FINAL. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1, 2, 4-9, 19, 20-28 is/are pending in the application.
- 4a) Of the above claim(s) 21-26 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1, 2, 4-9, 19, 20, 27 and 28 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claims _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are objected to by the Examiner.
- 11) ☒ The proposed drawing correction filed on 8-11-03 is: a) ☒ approved b) ☐ disapproved.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. § 119

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

Attachment(s)

- 15) ☒ Notice of References Cited (PTO-892)
- 16) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 17) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 10+17
- 18) ☐ Interview Summary (PTO-413) Paper No(s) _____
- 19) ☐ Notice of Informal Patent Application (PTO-152)
- 20) ☐ Other:

Art Unit: 3753

Applicant's "Revised Response" dated by applicant May 30, 2003 has been given careful consideration ^{as well as the "Voluntary Amendment" of March 4, 2004.} Applicant has affirmed that method claims Group I (claims 1-9 originally) were elected for examination. Apparatus claims 10-18 have been cancelled by applicant. Applicant has submitted new claims 19-28 and has identified claims 19, 20, 27 and 28 as readable on the elected species of Figure 1. Accordingly, claims 21-26 are withdrawn here as being directed to a non-elected species.

Applicant's comments with respect to amended Figures 1 and 7 which were submitted with the November 21, 2001 reply are convincing and those drawings proposals are approved in addition to applicant's latest drawing proposal to delete boxes 62 and 68 (in the August 11, 2003 reply).

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1, 2, 4-9, 19, 20, 27 and 28 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claims 1 and 27 purport to be directed to a method of humidifying a process gas in the preamble yet in the body of the claim that the humidified process gas is delivered to "a" fuel cell. Is this an "intended use" or ^{is} the fuel cell explicitly part of the claim? In the rejections which follow claim 1 and claim 27 will be treated both ways. If the fuel cell is an explicit part of the claim then the preamble of both claims 1 and 27 should be amended to recite – to a fuel cell – after the word "stream" and the

Art Unit: 3753

recitations of "fuel cell" in the body of all of the claims should refer to " said fuel cell " not " a fuel cell."

In addition the following problems were noted:

Claim 5 is redundant. If not, exactly what does it add to claim 1? Please amend it so that it doesn't repeat the same limitations already in claim 1. Claim 6 also seems slightly redundant. Claim 19 depends, at least in part, from cancelled claim 3.

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1, 2, 4, 5, 7-9, 19, 27 and 28 are rejected under 35 U.S.C. 103(a) as being unpatentable over the combined teachings of JP 5-256468, Weitman and optionally, Fleck.

JP' 468 teaches a steam source 24 connected to a mixing chamber 20 for mixing the injected steam with incoming process gas from compressor 23. This highly saturated process gas is subsequently cooled below its dewpoint by cooler 25 and a separator 28 discharges condensate. A heater 31 subsequently is used to heat the process stream to a desired temperature. One additional refinement of JP '468 is the use of a humidity controller 30 (controlled by a dew-point instrument 29) downstream of the saturating cooler 25. In view of the teachings of Weitman, which shows a saturator followed by a reheater and which lacks the refinement discussed above (i.e. the use of a humidity controller 30 by a dew-point instrument 29), it would have been obvious to

Art Unit: 3753

have omitted the dew-point instrument 29 and controller 30 in JP'468 to attain a less expensive structure. In general the omission of an element and its associated function is not deemed to be patentable, *In re Karlson*, 136 USPQ 184.

Alternatively, to have replaced saturator unit 1 of Weitman with units 20, 24 and 25, 27 & 28 of JP'468, which perform the same function, would have been obvious to reduce the overall size of the saturation section, and advantageously permit high temperature saturation to take place.

Regarding the step of providing a gas of controlled humidity and temperature to a fuel cell, it is submitted that it is well known in the art of fuel cells to control temperature and humidity of the process gas (typically air) to a predetermined level to assure maximum efficiency as taught by Fleck. Fleck also teaches that where the system is exposed to freezing temperatures it can be provided with "suitable insulating measures or by a heating system." (Col. 3, lines 28-34). To have insulated all of the conduits in Weitman/JP'468 to prevent freezing problems when using them to supply the process air of controlled temperature and humidity to a fuel cell would have been obvious to one of ordinary skill.

Claims 1, 2, 4-9, 19, 27 and 28 are rejected under 35 U.S.C. 103(a) as being unpatentable over the prior art as applied to claims 1, 2, 4, 5, 7-9, 19, 27 and 28 above, and further in view of Ebbing et al. (5, 544, 275) or Othmer (3, 617, 699).

Heaters for long delivery pipes where significant temperature may occur are well known to prevent the ^{condensation}~~consideration~~ (or freezing) of gas components. To have used

Art Unit: 3753

either of the heaters of Ebbing or Othmer in the outlet line of the prior art to keep the outlet line from ^{experiencing} ~~experiencing~~ condensation would have been obvious.

Claim20 is rejected under 35 U.S.C. 103(a) as being unpatentable over any of the prior art as applied to claim19 above, and further in view of Oswalt.

Oswalt teaches a combined heater/chiller to achieve particularly high levels of regulation. To have substituted this type of chilled fluid source in place of the chilled/heated fluid sources shown in the prior art (i.e. element 27 and 31 in JP'468 or the unillustrated chilled fluid source connected to inlets 3 &9 and outlets 4 & 10 of Weitman) would have been obvious to one of ordinary skill.

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Application/Control Number: 09/628,929


Page 6

Art Unit: 3753

Any inquiry concerning this communication should be directed to John Ford at
telephone number ⁷⁰³308-2636.

Ford/DI

March 8, 2004



John K. Ford
Primary Examiner